Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-28. (Canceled)

29. (Previously Presented) An apparatus comprising a piezoelectric element including lead zirconium titanate, and a thermoplastic bonding component having a plurality of openings and a thickness between 1 micron and 150 microns, wherein the thermoplastic bonding component having a plurality of openings is heat-bonded to a surface of the piezoelectric element, wherein the apparatus is an ink jet printing module.

30. (Previously Presented) The apparatus of claim 29, wherein the thermoplastic bonding component includes a first surface heat-bonded to the surface of the piezoelectric element and a second surface heat-bonded to a surface of a component of the ink jet printing module.

31. (Previously Presented) The apparatus of claim 29, wherein the thermoplastic bonding component includes an electrode pattern.

32. (Previously Presented) The apparatus of claim 29, wherein the piezoelectric element is lead zirconium titanate.

33. (Previously Presented) The apparatus of claim 29, wherein the thermoplastic bonding component has a thickness between 10 microns and 125 microns.

34. (Cancelled)

35. (Previously Presented) The apparatus of claim 29, wherein the thermoplastic bonding component has a thickness between 20 microns and 50 microns.

36. (Previously Presented) The apparatus of claim 29, wherein the thermoplastic bonding component includes an adhesive polyimide.

37. (Previously Presented) The apparatus of claim 29, further comprising an ink channel, the piezoelectric element being positioned to subject ink within the channel to jetting pressure, and electrical contacts arranged for activation of the piezoelectric element.

38. (Previously Presented) The apparatus of claim 37, further comprising a series of channels.

39. (Previously Presented) The apparatus of claim 38, wherein each of said channels is covered by a single piezoelectric element.

40. (Previously Presented) The apparatus of claim 37, wherein the thermoplastic bonding component covers the ink channel and includes a filter.

41. (Previously Presented) The apparatus of claim 40, wherein the filter including a repeating pattern of units having a plurality of openings and a land between the units is at least 50 microns.

42. (Previously Presented) The apparatus of claim 41, wherein the filter has a width of 300 to 495 microns.

43. (Previously Presented) The apparatus of claim 29, further comprising an orifice plate and a protector strip adhered to the orifice plate, wherein either the orifice plate or the protector strip includes a thermoplastic bonding material.

44. (Previously Presented) A method of manufacturing an ink jet printing module comprising:

providing a thermoplastic bonding component having a plurality of openings;

contacting the thermoplastic bonding component having a plurality of openings with a first component of an ink jet printing module; and

heating a surface of the first component to bond the surface to the thermoplastic bonding component.

45. (Previously presented) A method of manufacturing an ink jet printing module comprising:

contacting a first component of an ink jet printing module having a surface with a thermoplastic bonding component; and

heating the surface to bond the surface to the thermoplastic bonding component wherein the ink jet printing module includes an ink channel, a piezoelectric element being positioned to subject ink within the channel to jetting pressure, and electrical contacts arranged for activation of the piezoelectric element and wherein the thermoplastic bonding component is placed over the ink channel and includes a filter.

46. (Cancelled)

47. (Cancelled)

48. (Previously presented) The method of claim 45 wherein the thermoplastic bonding component includes a plurality of openings.

49. (Cancelled)

50. (Previously presented) The method of claim 45 wherein the filter includes a repeating pattern of units having a plurality of openings.

51. (Previously presented) The method of claim 50, wherein a land between the units is at least 50 microns.

52. (Previously Presented) An ink jet printing module comprising a piezoelectric element having a surface;

a thermoplastic bonding component heat-bonded to the surface;

an ink channel, the piezoelectric element being positioned to subject ink within the channel to jetting pressure; and

electrical contacts arranged for activation of the piezoelectric element,

wherein the thermoplastic bonding component has a thickness between 10 microns and 125 microns and the thermoplastic bonding component covers the ink channel and includes a filter.

53. (Cancelled)

54. (Previously presented) The ink jet printing module of claim 52, wherein the thermoplastic bonding component has a thickness between 20 and 50 microns.

55. (Previously presented) The ink jet printing module of claim 52, wherein the thermoplastic bonding component includes a first surface heat-bonded to the surface of the piezoelectric element and a second surface heat-bonded to a surface of an ink jet printing module component.

56. (Previously presented) The ink jet printing module of claim 52, wherein the thermoplastic bonding component includes an electrode pattern.

57. (Previously presented). The ink jet printing module of claim 52, wherein the piezoelectric element is lead zirconium titanate.

58. (Previously presented) The ink jet printing module of claim 52, wherein the thermoplastic bonding component includes a polyimide.

59. (Cancelled)

60. (Previously presented) The ink jet printing module of claim 52, further comprising a series of channels.

61. (Previously presented) The ink jet printing module of claim 60, wherein each of said channels is covered by a single piezoelectric element.

62. (Cancelled)

63. (Previously Presented) The ink jet printing module of claim 52, wherein the filter includes a repeating pattern of units having a plurality of openings and a land between the units is at least 50 microns.

64. (Previously presented) The ink jet printing module of claim 63, wherein the width of 300 to 495 microns.

65. (Previously presented) The ink jet printing module of claim 52, further comprising an orifice plate and a protector strip adhered to the orifice plate, wherein either the orifice plate or the protector strip includes a thermoplastic bonding material.

66. (Previously presented) The method of claim 44, further comprising applying pressure to the surface and the thermoplastic bonding component.

67. (Previously presented) The method of claim 66, wherein pressure is applied during heating.

68. (Previously Presented) The method of claim 44, wherein the surface and the thermoplastic bonding component are substantially free of liquid adhesive prior to contacting the surface to the thermoplastic bonding component.

69. (Previously presented) The method of claim 44, further comprising contacting a second component of the ink jet printing module having a surface with the thermoplastic bonding component; and heating the surface to bond the surface to the thermoplastic bonding component.

70. (Previously presented) The method of claim 44, wherein the first component of the ink jet printing module is a piezoelectric element.

71. (Previously presented) The method of claim 70, wherein the thermoplastic bonding component includes an electrode pattern.

72. (Previously presented) The method of claim 70, wherein the piezoelectric element is lead zirconium titanate.

73. (Previously presented) The method of claim 44, wherein the thermoplastic bonding component has a thickness between 1 micron and 150 microns.

74. (Previously presented) The method of claim 44, wherein the thermoplastic bonding component has a thickness between 10 micron and 125 microns.

75. (Previously presented) The method of claim 44, wherein the thermoplastic bonding component has a thickness between 20 microns and 50 microns.

76. (Previously presented) The method of claim 44, wherein the thermoplastic bonding component includes an adhesive polyimide.

77. (Previously presented) The method of claim 44, wherein the ink jet printing module includes an ink channel, a piezoelectric element being positioned to subject ink within the channel to jetting pressure, and electrical contacts arranged for activation of the piezoelectric element.

78. (Previously presented) The method of claim 77, wherein the ink jet printing module includes a series of channels.

79. (Previously presented) The method of claim 77, wherein the thermoplastic bonding component is placed over the ink channel and includes a filter.

80. (Previously presented) The method of claim 79, wherein the filter includes a repeating pattern of units having a plurality of openings.

81. (Previously presented) The method of claim 80, wherein a land between the units is at least 50 microns.

82. (Previously presented) The method of claim 44, wherein the module includes an orifice plate and the method further comprises adhering a protector strip over the orifice plate.

83. (Previously presented) The method of claim 82, wherein the orifice plate includes a thermoplastic bonding material adjacent to the protector strip.

84. (Previously presented) The method of claim 82, wherein the protector strip includes a thermoplastic bonding material adjacent to the orifice plate.

85. (Previously presented) The method of claim 45, further comprising applying pressure to the surface and the thermoplastic bonding component.

86. (Previously presented) The method of claim 85, wherein pressure is applied during heating.

87. (Previously presented) The method of claim 45, wherein the surface and the thermoplastic bonding component are substantially free of liquid adhesive.

88. (Previously presented) The method of claim 45, further comprising contacting a second component of the ink jet printing module having a surface with the thermoplastic bonding component; and heating the surface to bond the surface to the thermoplastic bonding component.

89. (Previously presented) The method of claim 45, wherein the first component of the ink jet printing module is a piezoelectric element.

90. (Previously presented) The method of claim 89, wherein the thermoplastic bonding component includes an electrode pattern.

91. (Previously presented) The method of claim 89, wherein the piezoelectric element is lead zirconium titanate.

92. (Previously presented) The method of claim 45, wherein the thermoplastic bonding component has a thickness between 1 micron and 150 microns.

93. (Previously presented) The method of claim 45, wherein the thermoplastic bonding component has a thickness between 10 micron and 125 microns.

94. (Previously presented) The method of claim 45, wherein the thermoplastic bonding component has a thickness between 20 microns and 50 microns.

95. (Previously presented) The method of claim 45, wherein the thermoplastic bonding component includes an adhesive polyimide.

96. (Previously presented) The method of claim 45, wherein the ink jet printing module includes a series of channels.

97. (Previously presented) The method of claim 45, wherein the module includes an orifice plate and the method further comprises adhering a protector strip over the orifice plate.

98. (Previously presented) The method of claim 97, wherein the orifice plate includes a thermoplastic bonding material adjacent to the protector strip.

99. (Previously presented) The method of claim 97, wherein the protector strip includes a thermoplastic bonding material adjacent to the orifice plate.

100. (Cancelled)

101. (Cancelled)

102. (Previously Presented) An ink jet printing module comprising a piezoelectric element having a surface;

a thermoplastic bonding component heat-bonded to the surface;

an ink channel, the piezoelectric element being positioned to subject ink within the channel to jetting pressure; and

electrical contacts arranged for activation of the piezoelectric element,

wherein the thermoplastic bonding component covers the ink channel and includes a filter.

103. (Previously Presented) An apparatus comprising a piezoelectric element having a surface, and a thermoplastic bonding component, the thermoplastic bonding component having dimensions of a surface of a first component heat-bonded to the surface of the piezoelectric element, wherein the piezoelectric element includes lead zirconium titanate, ~~and~~ the thermoplastic bonding component has a thickness between 20 microns and 50 microns, and the apparatus is an ink jet printing module.

104. (Previously Presented) An ink jet printing module comprising a piezoelectric element having a surface, and a thermoplastic bonding component, the thermoplastic bonding component having dimensions of a surface of a first component heat-bonded to the surface of the piezoelectric element, wherein the piezoelectric element includes lead zirconium titanate and the thermoplastic bonding component has a thickness between 10 micron and 125 microns,

the ink jet printing module further comprising an ink channel, the piezoelectric element being positioned to subject ink within the channel to jetting pressure, and electrical contacts arranged for activation of the piezoelectric element,

wherein the thermoplastic bonding component covers the ink channel and includes a filter.

105. (Previously Presented) The ink jet printing module of claim 104, wherein the filter including a repeating pattern of units having a plurality of openings and a land between the units is at least 50 microns.

106. (Previously Presented) An ink jet printing module comprising a piezoelectric element having a surface;

a thermoplastic bonding component heat-bonded to the surface;

an ink channel, the piezoelectric element being positioned to subject ink within the channel to jetting pressure; and

electrical contacts arranged for activation of the piezoelectric element,

wherein the thermoplastic bonding component has a thickness between 20 microns and 50 microns.

107. (Previously Presented) The apparatus of claim 29, wherein the thermoplastic bonding component is a solid.

108. (Previously Presented) The method of claim 44, wherein the thermoplastic bonding component is a solid.

109. (Cancelled)